Kelverion Automation

Integration Pack for
Citrix XenDesktop

System Center Orchestrator

User's Guide
Version 1.4

Kelverion Integration Pack for Citrix XenDesktop

Kelverion Automation Limited

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Kelverion Integration Pack for Citrix XenDesktop

The Integration Pack for Citrix XenDesktop is an add-on for System Center Orchestrator that enables you to integrate with Citrix XenDesktop environment and automate virtual desktop configuration and management processes.

System Requirements

The Integration Pack for Citrix XenDesktop requires the following software to be installed and configured prior to implementing the integration. For more information about installing and configuring Orchestrator, refer to the respective product documentation.

- Microsoft System Center Orchestrator *
- Microsoft .NET Framework 4.5.2
- Microsoft Windows PowerShell 3.0
- Microsoft Windows Remote Management (WinRM)
- One of the following XenDesktop Systems:
    - Citrix XenDesktop 7.0
    - Citrix XenDesktop 7.6
    - Citrix XenDesktop 7.14
    - Citrix Virtual Apps and Desktops 7 1811

* Please see Kelverion.com/orchestrator for the latest Orchestrator support information.

Registering and Deploying the Integration Pack

After you download the integration pack file, you must register it with the Orchestrator management server and then deploy it to Runbook Servers and Runbook Designers.

To register the integration pack:
1. On the management server, copy the **.OIP** file for the integration pack to a local hard drive or network share.
2. Confirm that the file is not set to **Read Only** to prevent unregistering the integration pack at a later date.
3. Start the **Deployment Manager**.
4. In the navigation pane of the Deployment Manager, expand **Orchestrator Management Server**, right-click **Integration Packs** to select **Register IP with the Orchestrator Management Server**. The **Integration Pack Registration Wizard** opens.
5. Click **Next**.
6. In the **Select Integration Packs or Hotfixes** dialog box, click **Add**.
7. Locate the **.OIP** file that you copied locally from step 1, click **Open** and then click **Next**.
8. In the **Completing the Integration Pack Wizard** dialog box, click **Finish**.
9. On the **End User Agreement** dialog box, read the Kelverion License Terms**,** and then click **Accept**.

10. The **Log Entries** pane displays a confirmation message when the integration pack is successfully registered.

To deploy the integration pack:
1. In the navigation pane of the **Deployment Manager**, right-click **Integration Packs**, click **Deploy IP to Runbook Server or Runbook Designer**.
2. Select the integration pack the you want to deploy, and then click **Next**.
3. Enter the name of the runbook server or computers with the Runbook Designer installed, on which you want to deploy the integration pack, click **Add**, and then click **Next**.
4. Continue to add additional runbook servers and computers running the Runbook Designer, on which you want to deploy the integration pack. Click **Next**.
5. In the **Installation Options** dialog box, configure the following settings.
6. To choose a time to deploy the integration pack, select the **Schedule installation** check box, and then select the time and date from the **Perform installation** list.
7. Click one of the following:
   a. **Stop all running runbooks before installing the integration pack** to stop all running runbooks before deploying the integration pack.
   b. **Install the Integration Packs without stopping the running Runbooks** to install the integration pack without stopping any running runbooks.
8. Click **Next**.
9. In the **Completing Integration Pack Deployment Wizard** dialog box, Click **Finish**.
10. When the integration pack is deployed, the Log Entries pane displays a confirmation message.

Licensing the Integration Pack

After you register and deploy the integration pack you must provide a valid Kelverion license before running any runbooks that contain activities from the integration pack

- **To deploy the integration pack license file**
  1. Copy the .KAL license file to %PROGRAMFILES(X86)%\Kelverion Automation\Licenses
  2. Repeat for each Orchestrator Runbook Service and Runbook Designer host system.

IMPORTANT: If you are upgrading an existing deployment of this integration pack and you are currently using version 1.0 or earlier, must contact your sales contact or info@kelverion.com to obtain a new license before upgrading to this version.

Configuring the Kelverion Integration Pack for Citrix XenDesktop Connections

A connection establishes a reusable link between Orchestrator and Citrix XenDesktop. You can create multiple connections, as you require, specifying links to multiple XenDesktop servers.

- **To set up a Citrix XenDesktop configuration:**
  1. In the Client, click the **Options** menu, and select *KA Citrix XenDesktop*. The **KA Citrix XenDesktop** dialog box appears.
  2. On the **Configurations** tab, click **Add** to begin the configuration setup. The **Add Configuration** dialog box appears.

3. In the **Name** box, enter a name for the configuration. This could be the name of the Citrix XenDesktop server or a descriptive name to distinguish the type of configuration.

4. Click the ellipsis button (…) next to the **Type** box and select *Connection Configuration.*

5. In the **XenDesktop Server** box, enter the FQDN or the IP address of the machine where your XenDesktop server (controller) is installed.

6. In the **XenDesktop Server Port** box enter the port used to communicate with the XenDesktop server. Typical values are 80 for HTTP and 443 for HTTPS.

7. In the **XenDesktop SDK Host** box enter the FQDN of the machine where the XenDesktop PowerShell SDK has been installed. For optimal performance it is recommended to install the XenDesktop SDK on the Orchestrator Runbook Service machine.

8. In the **XenDesktop SDK Host Port** box enter the port used to communicate with the machine where the XenDesktop PowerShell SDK has been installed. Typical values are 5985 for HTTP and 5986 for HTTPS.

9. In the **XenDesktop Admin User** box enter a domain user with permissions to administer the XenDesktop environment, in the form *DOMAIN\user.*

10. In the **XenDesktop Admin User Password** box enter the password of the XenDesktop admin user.

11. The **Use SSL** box specifies whether the IP uses HTTPS or HTTP to communicate with the XenDesktop SDK Host. Select **True** to use SSL over HTTPS. Select **False** to use HTTP. Note that configuring this also requires the **XenDesktop SDK Host Port** to be configured appropriately.

12. The **Skip CA Check** box specifies whether the client does not validate that the server certificate is signed by a trusted certificate authority (CA) when connecting over HTTPS (**Use SSL** box is **True**).

13. The **Skip CA Check** box specifies whether the client does not validate that the server certificate is signed by a trusted certificate authority (CA) when connecting over HTTPS (**Use SSL** box is **True**). Select **True** when the remote server is trusted by using another mechanism, such as when the remote computer is part of a network that is physically secure and isolated or when the remote computer is listed as a trusted host in a WinRM configuration.

14. The **Skip CN Check** box specifies whether the certificate common name (CN) of the server does not need to match the hostname of the server, when connecting over HTTPS (**Use SSL** box is **True**). Select **True** for trusted servers.

15. The **Skip Revocation Check** box specifies whether the revocation status of the server certificate is validated or not.

16. Click **OK** to close the configuration dialog box, and then click **Finish**.

Installing Required Components

The integration pack requires Windows Remote Management (WinRM) to be installed and configured in order for the IP to connect and communicate with target host where the XenDesktop PowerShell SDK has been deployed. The XenDesktop PowerShell SDK may also have to be installed on that XenDesktop SDK Host machine (typically by installing Citrix Studio), if not already installed.

- **To install the required components**
  1. Install and configure Windows Remote Management (WinRM) on Orchestrator Runbook Service (WinRM client) and XenDesktop SDK Host (WinRM server) machines – refer to http://msdn.microsoft.com/en-us/library/aa384372%28v=vs.85%29.aspx and to WinRM Configuration Steps.
  2. Install the XenDesktop PowerShell SDK on the machine configured as XenDesktop SDK Host, or, specify the XenDesktop SKD Host as a remote machine which already has the SDK installed. For optimal performance, it is recommended to install the XenDesktop SDK on the Orchestrator Runbook Service machine and make this machine part of the domain where XenDesktop infrastructure is running. You can install the SDK by installing Citrix Studio - refer to XenDesktop Install instructions (https://docs.citrix.com/en-us/citrix-virtual-apps-desktops/install-configure/install-core.html).
  3. Install Windows PowerShell 3.0 - refer to Installing Windows PowerShell (http://technet.microsoft.com/en-us/library/hh847837.aspx) for target operating system(s).
  4. Set PowerShell script execution policy to Remote Signed – start Windows PowerShell (x86) and run PS command *Set-ExecutionPolicy RemoteSigned*.

WinRM Configuration Steps

The IP requires WinRM to be installed and configured in order to communicate between the Orchestrator machine (WinRM Client) and the machine where the XenDesktop PowerShell SDK has been installed (WinRM server).

WinRM Server Configuration

Follow these steps to configure a WinRM server machine – the machine where the XenDesktop PowerShell SDK has been installed.

1. Configure a WinRM HTTP listener on the SDK Host machine (WinRM server) by opening a PowerShell console (Run as Administrator) and running the *winrm quickconfig*.

```
PS C:\Users\orchadmin> winrm quickconfig
WinRM service is already running on this machine.
WinRM is not set up to allow remote access to this machine for management.
The following changes must be made:

Create a WinRM listener on HTTP://* to accept WS-Man requests to any IP on this machine.
Enable the WinRM firewall exception.

Make these changes [y/n]? y

WinRM has been updated for remote management.

Created a WinRM listener on HTTP://* to accept WS-Man requests to any IP on this machine.
WinRM firewall exception enabled.
```

   If you want to configure a HTTPS listener, use *winrm quickconfig –transport:https*. Note that HTTPS requires a valid SSL certificate to be configured on the server machine.

2. Make sure that CredSSP authentication is enabled. This can be accomplished either by running a PowerShell command or by via the group policy configuration utility (gpedit.msc).

   a. PowerShell command:
      Enable-WSMANCredSSP -Role Server

```
PS C:\Windows\system32> Get-WSManCredSSP
The machine is not configured to allow delegating fresh credentials.
This computer is not configured to receive credentials from a remote client computer.
PS C:\Windows\system32> Enable-WSManCredSSP -Role Server

CredSSP Authentication Configuration for WS-Management
CredSSP authentication allows the server to accept user credentials from a remote computer. If you enable CredSSP
authentication on the server, the server will have access to the user name and password of the client computer if the
client computer sends them. For more information, see the Enable-WSManCredSSP Help topic.
Do you want to enable CredSSP authentication?
[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"): y

cfg               : http://schemas.microsoft.com/wbem/wsman/1/config/service/auth
lang              : en-US
Basic             : false
Kerberos          : true
Negotiate         : true
Certificate       : false
CredSSP           : true
CbtHardeningLevel : Relaxed


PS C:\Windows\system32> _
```

OR

b. Navigate to Computer Configuration -> Administrative Templates -> Windows Components
-> Windows Remote Management (WinRM) -> WinRM Service ->Allow CredSSP
authentication and make sure it this is enabled.
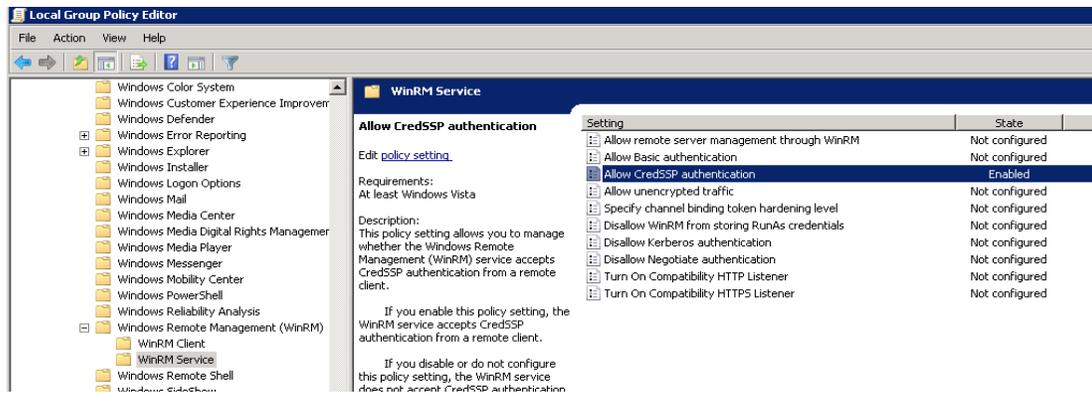
WinRM Client Configuration

Follow these steps to configure a WinRM client machine – the machine where the Orchestrator
Runbook Service is running:

On the WinRM client machine, make sure that CredSSP authentication is enabled and allow
delegation of credentials to WinRM Server machine. This can be accomplished in either with a
PowerShell command or via the group policy configuration utility (gpedit.msc):

a) PowerShell command
   Enable-WSManCredSSP -Role Client -delegatecomputer <WinRM Server FQDN> -force
   OR
b) Run gpedit.msc.
   i)   Navigate to *Computer Configuration -> Administrative Templates -> Windows
        Components -> Windows Remote Management (WinRM) -> WinRM Client ->Allow
        CredSSP authentication* and make sure this is enabled.
   ii) Navigate to *Computer Configuration -> Administrative Templates -> System ->
        Credentials Delegation -> Allow Delegating Fresh Credentials*.   Make sure this is
        enabled. Add the WinRM server machine to the list of servers. This must be in the form
        wsman/<WinRM server FQDN>.

Note: If your WinRM server and WinRM client machines are not part of the same domain, you may have to configure *Allow Delegating Fresh Credentials with NTLM-only server authentication* in a similar fashion.
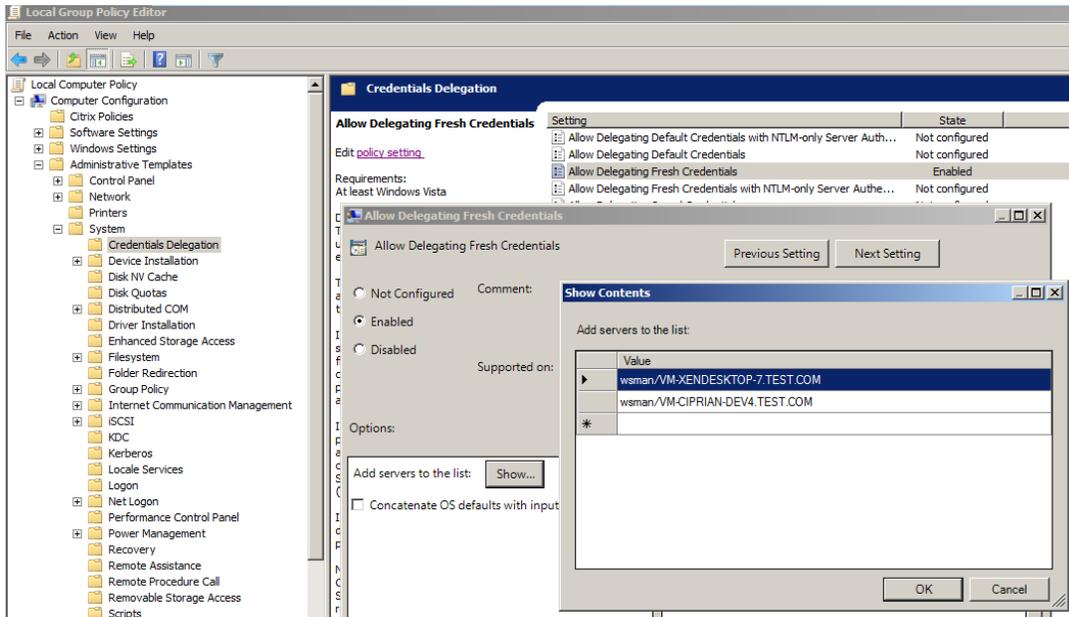
Citrix XenDesktop Activities

This integration pack adds the KA Citrix XenDesktop category to the **Activities** pane in the Client. This category contains the following activities:

- Add Machine
- Assign User
- Get Desktop Group
- Get Machine
- Get Machine Catalog
- Get Session
- Remove Machine

- Remove User
- Restart Machine
- Run Power Shell Script
- Set Maintenance Mode
- Shut Down Machine
- Start Machine
- Stop Session

Common Configuration Instructions for All Activities

The following configuration instructions apply to all activities in this integration pack. Links to this section are included in the configuration instructions for each activity.

Activity Properties

Each activity has a set of required or optional properties that define the configuration of that activity. This includes how it connects to other activity or how the activity performs its actions. You can view or modify activity properties in the Orchestrator Client.

- **To configure the properties for an activity**

  1. Double-click the activity. Alternatively, you can right-click the activity, and then click **Properties**.
  2. To save your configuration entries, click **Finish**.

In the activity properties dialog box, several tabs along the left side provide access to general and specific settings for the activity. Although the number of available tabs for activity properties differs from activity to activity, all activities will have a **General** tab, a **Properties** tab and/or **Filters** tab, and a **Run Behavior** tab. Some activities may have additional tabs.

General Tab

This tab contains the **Name** and **Description** properties for the activity. By default, the **Name** of the activity is the same as its activity type, and the **Description** is blank. You can modify these properties to create more descriptive names or provide detailed descriptions of the actions of the activity.

Properties/Filters Tab

These tabs contain properties that are specific to the activity.

All activities in this integration pack have the **Configuration Name** property at the top of the **Properties** tab. This property is used to specify the connection to a Citrix XenDesktop.

- **To configure the Configuration Name property**

  - Click the ellipsis **(…)** button next to the **Name** field, and then select the applicable connection name. Connections displayed in the list have been previously configured as described in [Configuring the Citrix XenDesktop Connections](#).

Filter Behavior

The Monitor and Get activities use filters to determine the values that will invoke a runbook or retrieve activities. Property values of potential candidates are compared to the values of the filters to determine if they meet the criteria. When matching against values, you select one of the available methods of comparison. An option is provided to either match or not match the filter using each method. For example, the "Does not" version of a method causes alerts that do not match the filter to trigger the runbook.

- **Equals**: the property of the object exactly matches the text or number specified in the filter.
- **Does not equal**: the property of the object does not exactly match the text or number specified in the filter.
- **Is less than**: the property of the object is less than the number specified in the filter.

- **Is less than or equal to**: the property of the object is less than or equal to the number specified in the filter.
- **Is greater than**: the property of the object is greater than the number specified in the filter.
- **Is greater than or equal to**: the property of the object is greater than or equal to the number specified in the filter.
- **Contains**: the property of the object contains the exact text specified in the filter. Unlike the Equals behavior, there can be other text surrounding the matching text.
- **Does not contain**: the property of the object does not contain the exact text specified in the filter. Unlike the Equals behavior, there can be other text surrounding the matching text.
- **Starts with**: the property of the object starts with the exact text specified in the filter. Unlike the Equals behavior, there can be other text following the matching text.
- **Ends with**: the property of the object ends with the exact text specified in the filter. Unlike the Equals behavior, there can be other text preceding the matching text.
- **$null** is accepted as a filter value and can be used to build filter conditions which test for properties being equal or not equal to PowerShell $null.

When building DateTime filter conditions it is recommended to use inequality comparison operators. If you use equals or does not equal to compare with DateTime values, ensure the filter value is specified with millisecond precision, otherwise the comparison evaluation may fail.

Run Behavior Tab

This tab contains the properties that determine how the activity handles multi-value published data and what notifications will be sent if the activity fails or runs for an excessive period of time.

Multi-Value Published Data Behavior

The Get activities retrieve information from another activity or outside source, and can return one or more values in the published data. For example, when you use the Get Collection Member activity, the data output from that activity might be a list of computers that belong to the specified collection.

By default, the data from the Get activity will be passed on as multiple individual outputs. This invokes the next activity as many times as there are items in the output. Alternatively, you can provide a single output for the activity by enabling the **Flatten** option. When you enable this option, you also choose a formatting option:

- **Separate with line breaks**. Each item is on a new line. This format is useful for creating human-readable text files for the output.
- **Separate with _** . Each item is separated by one or more characters of your choice.
- **Use CSV format**. All items are in CSV (comma-separated value) format. This format is useful for importing data into spreadsheets or other applications.

The activity will produce a new set of data every time it runs. The **Flatten** feature does not flatten data across multiple instances of the same activity.

Event Notifications

Some activities are expected to take a limited amount of time to complete. If they do not complete within that time they may be stalled or there may be another issue preventing them from completing. You can define the number of seconds to wait for completion of the action. After this period a platform event will be sent and the issue will be reported. You can also choose whether to generate a platform event if the activity returns a failure.

- **To be notified when the activity takes longer than a specified time to run or fails to run**
  1. In the **Event Notifications** box, enter the **number of seconds** of run time before a notification is generated.
  2. Select **Report if activity fails to run** to generate run failure notifications.

For more information about Orchestrator events, see the "Event Notifications " topics in the [Runbook Properties](https://technet.microsoft.com/en-us/library/hh489610.aspx#Event Notifications) (https://technet.microsoft.com/en-us/library/hh489610.aspx#Event Notifications).

Published Data

Published data is the foundation of a working runbook. It is the data produced as a result of the actions of an activity. This data is published to an internal data bus that is unique for each runbook. Subsequent activities in the runbook can subscribe to this data and use it in their configuration. Link conditions also use this information to add decision-making capabilities to runbooks.

An activity can only subscribe to data from the activities that are linked before it in the runbook. You can use published data to automatically populate the property values needed by activities.

- **To use published data**
  1. Right-click the property value box, click **Subscribe**, and then click **Published Data**.
  2. Click the **Activity** drop-down box and select the activity from which you want to obtain the data.
  3. To view additional data elements common to all activities, select **Show Common Published Data**.
  4. Click the published data element that you want to use, and then click **OK**.

For a list of the data elements published by each activity, see the Published Data tables in the activity topic. For information about the common published data items, see the [Published Data](http://technet.microsoft.com/en-us/library/hh403821.aspx) (http://technet.microsoft.com/en-us/library/hh403821.aspx).

Add Machine Activity

The Add Machine activity is used in a runbook to add a virtual machine to a Machine Catalog or a Desktop (Delivery) Group.   The following tables list the required properties and published data for this activity.

Add Machine Required Properties

Name	Description	Valid Values
Machine Name	Name of the machine to be added, in the form *domain\machine.*	*String*
Add Machine To	Specifies whether the machine is to be added to a Machine Catalog or to a Delivery Group.	*Machine Catalog* *Delivery Group*
Hosted Machine ID	Uniquely identifies the VM within the hosting hypervisor. Available only when adding machines to a catalog. **NOTE: This ID is external to XenDesktop, it is specific to the hosting hypervisor used under XenDesktop and could differ for different hypervisor types.** • For example, for Microsoft Hyper-V with VMM, this ID is a GUID which can be found in Hyper-V Manager => VM => Settings => Management => Name => Notes section. • In cases where the machine has not yet been added to XenDesktop, the ID can be obtained using the Get-Item PowerShell command from the Citrix.Host.Admin snapin. For example: *Get-Item* *–LiteralPath XDhyp:\Connections\<path to VM >.vm)* *–AdminAddress <XenDesktop controller>* Note that the host admin snapin must first be loaded with command *Add-PSSnaping Citrix.Host.Admin.V2* For more details see [about_HypHostSnapin](#) in Citrix XenDesktop documentation. • In cases where the machine has been previously added to XenDesktop, the ID can be obtained by using the Get Machine Activity.	*String*
Machine Catalog UID	Uniquely identifies the machine catalog the VM is to be added to. Available only when adding machines to a catalog.	*Integer*
Hypervisor Connection Name	Name of the XenDesktop hypervisor connection to be used when adding the VM. Available only when adding VM to a catalog.	*String*

Name	Description	Valid Values
Desktop Group UID	Uniquely identifies the Delivery Group the machine is to be added to. Available only when adding machine to a delivery group.	*Integer*

Add Machine Published Data

Name	Description	Valid Values
Machine UID	The UID of the machine that has been added to a Machine Catalog or Delivery Group	*Integer*
Machine Name	The name of the machine that has been added to a Machine Catalog or Delivery Group	*String*

Assign User Activity

The Assign User activity is used in a runbook to assign a user to a Private (Static) Desktop or Shared (Random) Delivery Group or a Machine.   The following tables list the required properties for this activity. This activity does not have any XenDesktop specific published data.

Assign User Required Properties

Name	Description	Valid Values
User Name	Name of the user to be assigned, in the form *domain\user.*	*String*
Assign User To	Specifies whether the user is to be assigned to a Private Desktop or to a Shared Group or to a Machine.	*Private (Static) Desktop* *Shared (Random) Group* *Machine*
Private (Static) Desktop Name	Name of the private desktop the user is to be assigned to, in the form *domain\machine*. Available only when adding a user to private desktop.	*String*
Shared (Random) Group UID	Uniquely identifies the shared delivery group the user is to be assigned to. Available only when adding a user to a shared delivery group.	*Integer*
Machine Name	Name of the machine the user is to be assigned to, in the form *domain\machine*. Available only when adding a user to a machine.	*String*

Assign User Published Data

Name	Description	Valid Values
User Name	Name of the user that has been assigned.	*String*
Machine Name	Name of the machine the user has been assigned to.	*String*
Machine UID	UID of the machine the user has been assigned to.	*Integer*
Private (Static) Desktop Name	Name of the private desktop the user has been assigned to.	*String*
Private (Static) Desktop UID	UID of the private desktop the user has been assigned to.	*Integer*
Shared (Random) Group Name	Name of the shared group the user has been assigned to.	*String*

Name	Description	Valid Values
Shared (Random) Group UID	UID of the shared group the user has been assigned to.	*Integer*

Get Desktop Group Activity

The Get Desktop Group activity is used in a runbook to return desktop (delivery) groups. The following tables list the optional properties and published data for this activity.

Get Desktop Group Optional Properties

Name	Description	Valid Values
Max Record Count	Specifies the maximum number of records to be returned.	*Integer*
Property	Specifies which object properties are to be returned, in the form of a comma separated list of property names.	*String*
Return Total Record Count	Specifies whether the activity should return the total number of records available.	*True* *False*
Skip	Skips the specified number of records before returning the results.	*Integer*
Sort By	Sorts the results by the specified list of properties, in the form of a comma separated list of property names. Optionally, prefix each name with a + or - to indicate ascending or descending order. Ascending order is assumed if no prefix is present.	*String*

Get Desktop Group Published Data

Name	Description	Valid Values
Desktop Group Count	Number of desktop groups returned.	*Integer*
Total Record Count	Total number of records available. This is published when Return Total Record Count is True.	*Integer*
Automatic Power On For Assigned	Specifies whether assigned desktops in the group are automatically started at the start of peak time periods. Only relevant for groups with Desktop Kind as Private.	*True* *False*
Automatic Power On For Assigned During Peak	Specifies whether assigned desktops in the group are automatically started throughout peak time periods. Only relevant for groups with Desktop Kind as Private and which have Automatic Power On For Assigned set to True.	*True* *False*
Color Depth	Default color depth of sessions started with machines in the desktop group.	*FourBit* *EightBit* *SixteenBit*

Name	Description	Valid Values
		TwentyFourBit
Configuration Slot UIDs	UIDs of any configuration slots which hold machine configurations associated with the desktop group. The order of slot UIDs in this list correspond with the order of items in the associated Machine Configuration Names and Machine Configuration UIDs list properties, and so the same slot UID can appear more than once.	*Integer Array in JSON format*
Delivery Type	The type of resources being published by the desktop group.	*DesktopsOnly* *AppsOnly* *DesktopsAndApps*
Description	Description of the desktop group.	*String*
Desktop Kind	The type of desktops being published by the desktop group.	*Private* *Shared*
Desktops Available	The number of desktops in the group that are available for new sessions.	*Integer*
Desktops Disconnected	The number of desktops in the group that have disconnected sessions.	*Integer*
Desktops In Use	The number of desktops in the group that are currently in use.	*Integer*
Desktops Never Registered	The number of desktops in the group that have never registered.	*Integer*
Desktops Preparing	The number of desktops in the group that are currently preparing sessions.	*Integer*
Desktops Unregistered	The number of desktops in the group that are currently unregistered.	*Integer*
Enabled	Specifies whether the desktop group is enabled or not. Only enabled groups appear to users.	*True* *False*
Icon UID	The UID of the icon to be used as a default for desktops in the desktop group. Individual desktops can override this default by setting the Icon UID parameter on the desktop object.	*Integer*
In Maintenance Mode	Specifies whether the machines in the group are in maintenance mode or not.	*True* *False*
Is Remote PC	Specifies whether the desktop group is a Remote PC	*True*

Name	Description	Valid Values
	desktop group.	*False*
Machine Configuration Names	The Machine Configuration names associated with the desktop group.	*String Array in JSON format*
Machine Configuration UIDs	The Machine Configuration UIDs associated with the desktop group.	*Integer Array in JSON format*
Metadata Map	Metadata associated with the desktop group.	*String Map in JSON format*
Minimum Functional Level	The minimum Functional Level required for the machines in the desktop group to be able to register with the Citrix Broker Service.	*L5* *L7*
Name	Name of the desktop group.	*String*
Off Peak Buffer Size Percent	The percentage of machines that are kept available in an idle state outside peak hours.	*Integer*
Off Peak Disconnect Action	The action that is performed after a configurable period of a user session disconnecting outside peak hours.	*Nothing* *Suspend* *Shutdown*
Off Peak Disconnect Timeout	The number of minutes before the configured action is performed after a user session disconnects outside peak hours.	*Integer*
Off Peak Extended Disconnect Action	The action performed after a second configurable period of a user session disconnecting outside peak hours.	*Nothing* *Suspend* *Shutdown*
Off Peak Extended Disconnect Timeout	The number of minutes before the second configured action is performed after a user session disconnects outside peak hours.	*Integer*
Off Peak Log Off Action	The action performed after a configurable period of a user session ending outside peak hours.	*Nothing* *Suspend* *Shutdown*
Off Peak Log Off Timeout	The number of minutes before the configured action is performed after a user session ends outside peak hours.	*Integer*
Peak Buffer Size Percent	The percentage of machines in the desktop group that are kept available in an idle state in peak hours.	*Integer*

Name	Description	Valid Values
Peak Disconnect Action	The action performed after a configurable period of a user session disconnecting in peak hours.	*Nothing* *Suspend* *Shutdown*
Peak Disconnect Timeout	The number of minutes before the configured action is performed after a user session disconnects in peak hours.	*Integer*
Peak Extended Disconnect Action	The action performed after a second configurable period of a user session disconnecting in peak hours.	*Nothing* *Suspend* *Shutdown*
Peak Extended Disconnect Timeout	The number of minutes before the second configured action is performed after a user session disconnects in peak hours.	*Integer*
Peak Log Off Action	The action performed after a configurable period of a user session ending in peak hours.	*Nothing* *Suspend* *Shutdown*
Peak Log Off Timeout	The number of minutes before the configured action is performed after a user session ends in peak hours.	*Integer*
Protocol Priority	A list of protocol names in the order in which they are attempted for use during connection.	*String Array in JSON format*
Published Name	The name of the desktop group as it is to appear to the user in Store Front.	*String*
Scopes	The list of the delegated admin scopes to which the desktop group belongs.	*Scope Array in JASON format*
Secure ICA Required	Specifies whether the Secure ICA encryption of the HDX protocol is required for sessions of desktops in the desktop group.	*True* *False*
Sessions	The total number of user sessions currently running on all of the machines in the desktop group.	*Integer*
Session Support	Specifies the session support of the machines in the desktop group. Machines with the incorrect session support for the desktop group will be unable to register with the Citrix Broker Service.	*SingleSession* *MultiSession*
Shutdown Desktops After Use	Specifies whether the desktops will shut down after they have been used and there are no sessions running on the machine.	*True* *False*

Name	Description	Valid Values
Tags	Tags associated with the desktop group	*String Array in JSON format*
Time Zone	The time zone that desktops in the desktop group are in.	*String*
Total Applications	Total number of applications associated with the desktop group.	*Integer*
Total Desktops	Total number of desktops associated with the desktop group.	*Integer*
Turn On Added Machine	Specifies whether power-managed machines should be attempted to be turned on when they are added to the desktop group.	*True* *False*
UID	UID if the desktop group.	*Integer*
UUID	UUID if the desktop group.	*GUID String*

Get Desktop Group Filters

Name	Description	Valid Values
Application UID	Filters results by UID of applications published.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Automatic Power On For Assigned	Filters results by Automatic Power On For Assigned value.	*Equals* *Does not equal*
Automatic Power On For Assigned During Peak	Filters results by Automatic Power On For Assigned During Peak value.	*Equals* *Does not equal*
Color Depth	Filters results by Color Depth value.	*Equals* *Does not equal*
Delivery Type	Filters results by Delivery Type value.	*Equals* *Does not equal*
Description	Filters results by Description value.	*Equals* *Does not equal* *Contains*

Name	Description	Valid Values
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Desktop Kind	Filters results by Desktop Kind value.	*Equals*
		Does not equal
Enabled	Filters results by Enabled value.	*Equals*
		Does not equal
In Maintenance Mode	Filters results by In Maintenance Mode value.	*Equals*
		Does not equal
Is Remote PC	Filters results by Is Remote PC value.	*Equals*
		Does not equal
Machine Configuration UID	Filters results by Machine Configuration UID.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than
Metadata	Filters results by Metadata value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Minimum Functional Level	Filters results by Minimum Functional Level value.	*Equals*
		Does not equal
Name	Filters results by Name value.	*Equals*
		Does not equal
		Contains
		Does not contain

Name	Description	Valid Values
		Matches pattern *Does not match pattern* *Starts with* *Ends with*
Off Peak Buffer Size Percent	Filters results by Off Peak Buffer Size Percent value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Off Peak Disconnect Action	Filters results by Off Peak Disconnect Action value.	*Equals* *Does not equal*
Off Peak Disconnect Timeout	Filters results by Off Peak Disconnect Timeout value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Off Peak Extended Disconnect Action	Filters results by Off Peak Extended Disconnect Action value.	*Equals* *Does not equal*
Off Peak Extended Disconnect Timeout	Filters results by Off Peak Extended Disconnect Timeout value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Off Peak Log Off Action	Filters results by Off Peak Log Off Action value.	*Equals* *Does not equal*
Off Peak Log Off Timeout	Filters results by Off Peak Log Off Timeout value.	*Equals* *Does not equal* *Is less than or equal to*

Name	Description	Valid Values
		Is greater than or equal to *Is less than* *Is greater than*
Peak Buffer Size Percent	Filters results by Peak Buffer Size Percent value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Peak Disconnect Action	Filters results by Peak Disconnect Action value.	*Equals* *Does not equal*
Peak Disconnect Timeout	Filters results by Peak Disconnect Timeout value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Peak Extended Disconnect Action	Filters results by Peak Extended Disconnect Action value.	*Equals* *Does not equal*
Peak Extended Disconnect Timeout	Filters results by Peak Extended Disconnect Timeout value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Peak Log Off Action	Filters results by Peak Log Off Action value.	*Equals* *Does not equal*
Peak Log Off Timeout	Filters results by Peak Log Off Timeout value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to*

Name	Description	Valid Values
		Is less than
		Is greater than
Power Time Scheme UID	Filters results by Power Time Scheme UID value.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than
Published Name	Filters results by Published Name value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Scope ID	Filters results by Scope ID value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Scope Name	Filters results by Scope Name value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Secure ICA Required	Filters results by Secure ICA Required value.	*Equals*
		Does not equal

Name	Description	Valid Values
Session Support	Filters results by Session Support value.	*Equals* *Does not equal*
Shutdown Desktops After Use	Filters results by Shutdown Desktops After Use value.	*Equals* *Does not equal*
Tag	Filters results by Tag value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Tag UID	Filters results by Tag UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Time Zone	Filters results by Time Zone value.	*Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Total Applications	Filters results by Total Applications value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Turn On Added Machine	Filters results by Turn On Added Machine value.	*Equals* *Does not equal*

Name	Description	Valid Values
UID	Filters results by UID.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
UUID	Filters results by UUID.	*Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*

Get Machine Activity

The Get Machine activity is used in a runbook to return XenDesktop machines (including private or shared desktops). The following tables list the optional properties and published data for this activity.

Get Machine Optional Properties

Name	Description	Valid Values
Max Record Count	Specifies the maximum number of records to be returned.	*Integer*
Property	Specifies which object properties are to be returned, in the form of a comma separated list of property names.	*String*
Return Total Record Count	Specifies whether the activity should return the total number of records available.	*True* *False*
Skip	Skips the specified number of records before returning the results.	*Integer*
Sort By	Sorts the results by the specified list of properties, in the form of a comma separated list of property names. Optionally, prefix each name with a + or - to indicate ascending or descending order. Ascending order is assumed if no prefix is present.	*String*

Get Machine Published Data

Name	Description	Valid Values
Machine Count	Number of machines returned.	*Integer*
Total Record Count	Total number of records available. This is published when Return Total Record Count is True.	*Integer*
Agent Version	Version of the Citrix Virtual Delivery Agent (VDA) installed on the machine.	*String*
Allocation Type	Indicates how the machine is allocated to the user.	*Static* *Random*
Applications In Use	List of applications in use on the machine (in the form of browser name).	*String Array in JSON format*
Assigned	The name of the endpoint client	*String*

Name	Description	Valid Values
Client Name	device that the machine has been assigned to.	
Assigned IP Address	The IP address of the endpoint client device that the machine has been assigned to.	*String*
Associated User Full Names	Full names of the users that have been associated with the machine.	*String Array in JSON format*
Associated User Names	Usernames of the users that have been associated with the machine.	*String Array in JSON format*
Associated User SIDs	The SIDs of the users that have been associated with the machine.	*String Array in JSON format*
Associated User UPNs	The User Principal Names of the users that have been associated with the machine.	*String Array in JSON format*
Capabilities	List of the capabilities that the machine supports.	*String Array in JSON format*
Catalog Name	Name of the catalog the machine is a member of.	*String*
Catalog UID	UID of the catalog the machine is a member of.	*Integer*
Catalog UUID	UUID of the catalog the machine is a member of.	*GUID String*
Color Depth	The color depth setting configured on the machine.	FourBit EightBit SixteenBit TwentyFourBit
Controller DNS Name	The DNS host name of the controller that the machine is registered to.	*String*
Delivery Type	Specifies whether the machine delivers desktops only, apps only or both.	AppsOnly DesktopsOnly DesktopsAndApps
Description	Description of the machine.	*String*
Desktop Conditions	List of outstanding desktop conditions for the machine.	*String Array in JSON format*
Desktop Group Name	Name of the desktop group the machine is a member of.	*String*

Name	Description	Valid Values
Desktop Group UID	UID of the desktop group the machine is a member of.	*Integer*
Desktop Group UUID	UUID of the desktop group the machine is a member of.	*String*
Desktop Kind	Indicates whether the machine is private or shared.	*Private* *Shared*
Desktop UID	The UID of the associated desktop object.	*Integer*
DNS Name	The DNS host name of the machine.	*String*
Fault State	Summary state of any current fault state of the machine.	*None* *FailedToStart* *StuckOnBoot* *Unregistered* *MaxCapacity*
Functional Level	Functional level of the machine, if known.	*L5* *L7*
Hosted Machine ID	Unique ID within the hosting unit of the target managed machine.	*String*
Hosted Machine Name	The friendly name of a hosted machine as used by its hypervisor.	*String*
Hosting Server Name	DNS name of the hypervisor that is hosting the machine if managed.	*String*
Hypervisor Connection Name	The name of the hypervisor connection that the machine has been assigned to, if managed.	*String*
Hypervisor Connection UID	The UID of the hypervisor connection that the machine's hosting server is accessed through.	*Integer*
HypHypervisor Connection UID	The UUID of the hypervisor connection that the machine's hosting server is accessed through.	*GUID String*
Icon UID	The UID of the machine's icon that is displayed in Store Front.	*Integer*
Image Out Of Date	Specifies whether the VM image for a hosted machine is out of date.	*True*

Name	Description	Valid Values
		False
In Maintenance Mode	Specifies whether the machine is in maintenance mode.	*True* *False*
IP Address	IP address of the machine	*String*
Is Assigned	Specifies whether a private desktop has been assigned to a user/users, or a client name/address. Users can be assigned explicitly or by assigning on first use of the machine.	*True* *False*
Is Physical	Indicates whether the machine is physical or not.	*True* *False*
Last Connection Failure	The reason for the last failed connection between a client and the machine.	*None* *SessionPreparation* *RegistrationTimeout* *ConnectionTimeout* *Licensing* *Ticketing* *Other*
Last Connection Time	Time of the last detected connection attempt that either failed or succeeded (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime string*
Last Connection User	The SAM name (in the form DOMAIN\user) of the user that last attempted a connection with the machine. If the SAM name is not available, the SID is used.	*String*
Last Deregistration Reason	The reason for the last deregistration of the machine with the broker.	*AgentShutdown* *AgentSuspended* *AgentRequested* *IncompatibleVersion* *AgentAddressResolutionFailed* *AgentNotContactable* *AgentWrongActiveDirectoryOU* *EmptyRegistrationRequest* *MissingRegistrationCapabilities* *MissingAgentVersion*

Name	Description	Valid Values
		InconsistentRegistrationCapabilities
		NotLicensedForFeature
		UnsupportedCredentialSecurityVersion
		InvalidRegistrationRequest
		SingleMultiSessionMismatch
		FunctionalLevelTooLowForCatalog
		FunctionalLevelTooLowForDesktopGroup
		PowerOff
		DesktopRestart
		DesktopRemoved
		AgentRejectedSettingsUpdate
		SendSettingsFailure
		SessionAuditFailure
		SessionPrepareFailure
		ContactLost
		SettingsCreationFailure
		UnknownError
		BrokerRegistrationLimitReached
Last Deregistration Time	Time of the last deregistration of the machine from the controller (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime string*
Last Error Reason	The reason for the last error detected in the machine.	*String*
Last Error Time	The time of the last detected error (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime string*
Last Hosting Update Time	Time of last update to any hosting data (such as power states) for this machine reported by the hypervisor connection (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime string*
Load Index	Gives current effective load index for multi-session machines.	*Integer*
Load Indexes	Gives the last reported individual load indexes that were used in the calculation of the LoadIndex value. Note that the LoadIndex value may have been subsequently adjusted due to session brokering	*String Array in JSON format*

Name	Description	Valid Values
	operations. This value is only set for multi-session machines.	
Machine Internal State	The internal state of the machine; reported while the machine is registered to a controller, plus some private Citrix Broker Service states while the machine is not registered.	*Available* *FullCapacity* *Pending* *SoftRegistered* *Unavailable* *Unknown* *Unregistered*
Machine Name	DNS host name of the machine.	*String*
Metadata Map	Any metadata that is associated with the machine.	*String Map in JSON format*
OS Type	Operating system running on the machine.	*String*
OS Version	Version of the operating system running on the machine.	*String*
Persist User Changes	Describes whether/how the user changes are persisted.	*OnLocal* *OnPvd* *Discard*
Power Action Pending	Indicates whether there are any pending power actions for the machine.	*True* *False*
Power State	The current power state of the machine.	*Unmanaged* *Unknown* *Unavailable* *Off* *On* *Suspended* *TurningOn* *TurningOff* *Suspending* *Resuming*
Provisioning Type	Indicates how the machine was provisioned.	*Manual* *PVS* *MCS*
Published Applications	List of applications published by the machine.	*String Array*

Name	Description	Valid Values
Published Name	The name of the machine that is displayed in Store Front, if the machine has been published.	*String*
PVD Stage	For a machine supporting Personal vDisk technology (PvD), indicates the stage of the PvD image preparation.	*None* *Requested* *PoweringOn* *Working*
Registration State	Indicates the registration state of the machine.	*Unregistered* *Initializing* *Registered* *AgentError*
Scheduled Reboot	Indicates the state of any scheduled reboot operation for a machine.	*None* *Pending* *Draining* *InProgress*
Secure ICA Required	Indicates whether SecureICA is required or not when starting a session on the machine.	*True* *False*
Session Autonomously Brokered	Session property indicating if the current session was started without the use of the broker.	*True* *False*
Session Client Address	Session property indicating the IP address of the client connected to the machine.	*String*
Session Client Name	Session property indicating the host name of the client connected to the machine.	*String*
Session Client Version	Session property indicating the host name of the client connected to the machine.	*String*
Session Connected Via Host Name	Session property indicating the host name of the connection gateway, router or client.	*String*
Session Connected Via IP	Session property indicating the IP address of the connection gateway, router or client.	*String*

Name	Description	Valid Values
Session Count	Number of sessions on the machine.	*Integer*
Session Device ID	Session property indicating a unique identifier for the client device that has most recently been associated with the current session.	*String*
Session Hardware ID	Session property indicating a unique identifier for the client hardware that has been most recently associated with the current session.	*String*
Session Hidden	Session parameter that indicates if a session is hidden.	*True* *False*
Session Key	Session property indicating the key of the current session.	*String*
Session Launched Via Host Name	Session property that denotes the host name of the Store Front server used to launch the current brokered session.	*String*
Session Launched Via IP	Session property that denotes the IP address of the Store Front server used to launch the current brokered session.	*String*
Session Protocol	Session property that denotes the protocol that the current session is using, can be either "HDX" or "RDP".	*String*
Session Secure ICA Active	Session property that indicates whether SecureICA is active on the current session.	*True* *False*
Sessions Established	Number of established sessions on this machine. For multi-session machines this excludes established sessions which have not yet completed their logon processing.	*Integer*
Session Smart Access Tags	Session property that indicates the Smart Access tags for the current session.	*String Array*

Name	Description	Valid Values
Sessions Pending	Number of pending (brokered but not yet established) sessions on this machine. For multi-session machines this also includes established sessions which have not yet completed their logon processing.	*Integer*
Session Start Time	Session property that indicates the start time of the current session. Session properties are always null on multi-session machines (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime String*
Session State	Session property indicating the state of the current session.	*Other* *PreparingSession* *Connected* *Active* *Disconnected* *Reconnecting* *NonBrokeredSession* *Unknown*
Session State Change Time	Session property indicating the time of the last state change of the current session (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime String*
Session Support	Indicates the session support of the machine.	*SingleSession* *MultiSession*
Session UID	Session property indicating the UID of the current session.	*Integer*
Session User Name	Session property indicates the name of the current sessions' user (in the form DOMAIN\user).	*String*
Session User SID	Session property indicates the SID of the current sessions' user.	*String*
SID	The SID of the machine.	*String*
Summary State	Indicates the overall state of the desktop associated with the machine. The overall state is a result of other more specific states	*Off* *Unregistered* *Available*

Name	Description	Valid Values
	such as session state, registration state and power state.	*Disconnected* *InUse* *Pending*
Tags	List of tags for the machine.	*String Array*
UID	UID of the machine object.	*Integer*
UUID	UUID of the machine object.	*String*
VM Tools State	State of the hypervisor tools present on the VM (if any).	*NotPresent* *Unknown* *NotStarted* *Running*
Will Shut Down After Use	Indicates whether this machine is tainted and will be shut down after all sessions on the machine have ended. This flag should only ever be true on power managed, single-session machines.	*True* *False*
Windows Connection Setting	The logon mode reported by Windows itself (multi-session machines only). For single-session machines the value is always hardwired to LogonEnabled.	*LogonEnabled* *Draining* *DrainingUntilRestart* *LogonDisabled*

NOTE: Machine session properties are always null for multi-session machines.

Get Machine Filters

Name	Description	Valid Values
Agent Version	Filters results by Agent Version value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Allocation Type	Filters results by Allocation Type value.	*Equals* *Does not equal*

Name	Description	Valid Values
Application In Use	Filters results by Application In Use value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Assigned Client Name	Filters results by Assigned Client Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Assigned IP Address	Filters results by Assigned IP Address value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Assigned User SID	Filters results by Assigned User SID value.	*Equals* *Does not equal*
Associated User Full Name	Filters results by Associated User Full Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Associated	Filters results by Associated User Name value.	*Equals*

Name	Description	Valid Values
User Name		*Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Associated User SID	Filters results by Associated User SID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Associated Use UPN	Filters results by Associated Use UPN value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Catalog Name	Filters results by Catalog Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Catalog UID	Filters results by Catalog UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to*

Name	Description	Valid Values
		Is less than *Is greater than*
Catalog UUID	Filters results by Catalog UUID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Color Depth	Filters results by Color Depth value.	*Equals* *Does not equal*
Controller DNS Name	Filters results by Controller DNS Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Delivery Type	Filters results by Delivery Type value.	*Equals* *Does not equal*
Description	Filters results by Description value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Desktop Condition	Filters results by Desktop Condition value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern*

Name	Description	Valid Values
		Does not match pattern *Starts with* *Ends with*
Desktop Group Name	Filters results by Desktop Group Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Desktop Group UID	Filters results by Desktop Group UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Desktop Group UUID	Filters results by Desktop Group UUID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Desktop Kind	Filters results by Desktop Kind value.	*Equals* *Does not equal*
Desktop UID	Filters results by Desktop UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
DNS Name	Filters results by DNS Name value.	*Equals* *Does not equal*

Name	Description	Valid Values
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Fault State	Filters results by Fault State value.	*Equals*
		Does not equal
Functional Level	Filters results by Functional Level value.	*Equals*
		Does not equal
Hosted Machine ID	Filters results by Hosted Machine ID value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Hosted Machine Name	Filters results by Hosted Machine Name value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Hosting Server Name	Filters results by Hosting Server Name value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Hypervisor	Filters results by Hypervisor Connection Name	*Equals*

Name	Description	Valid Values
Connection Name	value.	*Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Hypervisor Connection UID	Filters results by Hypervisor Connection UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
HypHypervisor Connection UID	Filters results by HypHypervisor Connection UID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Icon UID	Filters results by Icon UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Image Out Of Date	Filters results by Image Out Of Date value.	*Equals* *Does not equal*
In Maintenance Mode	Filters results by In Maintenance Mode value.	*Equals* *Does not equal*
IP Address	Filters results by IP Address value.	*Equals* *Does not equal* *Contains* *Does not contain*

Name	Description	Valid Values
		Matches pattern *Does not match pattern* *Starts with* *Ends with*
Is Assigned	Filters results by Is Assigned value.	*Equals* *Does not equal*
Is Physical	Filters results by Is Physical value.	*Equals* *Does not equal*
Last Connection Failure	Filters results by Last Connection Failure value.	*Equals* *Does not equal*
Last Connection Time	Filters results by Last Connection Time value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Last Connection User	Filters results by Last Connection User value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Last Deregistration Reason	Filters results by Last Deregistration Reason value.	*Equals* *Does not equal*
Last Deregistration Time	Filters results by Last Deregistration Time value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Last Error	Filters results by Last Error Reason value.	*Equals*

Name	Description	Valid Values
Reason		*Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Last Error Time	Filters results by Last Error Time value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Last Hosting Update Time	Filters results by Last Hosting Update Time value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Load Index	Filters results by Load Index value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Machine Internal State	Filters results by Machine Internal State value.	*Equals* *Does not equal*
Machine Name	Filters results by Machine Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*

Name	Description	Valid Values
Metadata	Filters results by Metadata value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
OS Type	Filters results by OS Type value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
OS Version	Filters results by OS Version value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Persist User Changes	Filters results by Persist User Changes value.	*Equals* *Does not equal*
Power Action Pending	Filters results by Power Action Pending value.	*Equals* *Does not equal*
Power State	Filters results by Power State value.	*Equals* *Does not equal*
Provisioning Type	Filters results by Provisioning Type value.	*Equals* *Does not equal*
Published Application	Filters results by Published Application value.	*Equals* *Does not equal* *Contains*

Name	Description	Valid Values
		Does not contain *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Published Name	Filters results by Published Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
PVD Stage	Filters results by PVD Stage value.	*Equals* *Does not equal*
Registration State	Filters results by Registration State value.	*Equals* *Does not equal*
Scheduled Reboot	Filters results by Scheduled Reboot value.	*Equals* *Does not equal*
Secure ICA Required	Filters results by Secure ICA Required value.	*Equals* *Does not equal*
Session Autonomously Brokered	Filters results by Session Autonomously Brokered value.	*Equals* *Does not equal*
Session Client Address	Filters results by Session Client Address value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session Client Name	Filters results by Session Client Name value.	*Equals* *Does not equal* *Contains*

Name	Description	Valid Values
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Session Client Version	Filters results by Session Client Version value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Session Connected Via Host Name	Filters results by Session Connected Via Host Name value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Session Connected Via IP	Filters results by Session Connected Via IP value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Session Count	Filters results by Session Count value.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than

Name	Description	Valid Values
Session Device ID	Filters results by Session Device ID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session Hardware ID	Filters results by Session Hardware ID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session Hidden	Filters results by Session Hidden value.	*Equals* *Does not equal*
Session Key	Filters results by Session Key value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session Launched Via Host Name	Filters results by Session Launched Via Host Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session	Filters results by Session Launched Via IP value.	*Equals*

Name	Description	Valid Values
Launched Via IP		*Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session Protocol	Filters results by Session Protocol value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session Secure ICA Active	Filters results by Session Secure ICA Active value.	*Equals* *Does not equal*
Sessions Established	Filters results by Sessions Established value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Sessions Pending	Filters results by Sessions Pending value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Session Smart Access Tag	Filters results by Session Smart Access Tag value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern*

Name	Description	Valid Values
		Does not match pattern *Starts with* *Ends with*
Session Start Time	Filters results by Session Start Time value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Session State	Filters results by Session State value.	*Equals* *Does not equal*
Session State Change Time	Filters results by Session State Change Time value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Session Support	Filters results by Session Support value.	*Equals* *Does not equal*
Session UID	Filters results by Session UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Session User Name	Filters results by Session User Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session User SID	Filters results by Session User SID value.	*Equals* *Does not equal*

Name	Description	Valid Values
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
SID	Filters results by SID value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Summary State	Filters results by Summary State value.	*Equals*
		Does not equal
Tag	Filters results by Tag value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
UID	Filters results by UID value.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than
UUID	Filters results by UUID value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern

Name	Description	Valid Values
		Does not match pattern *Starts with* *Ends with*
VM Tools State	Filters results by VM Tools State value.	*Equals* *Does not equal*
Will Shut Down After Use	Filters results by Will Shut Down After Use value.	*Equals* *Does not equal*
Windows Connection Setting	Filters results by Windows Connection Setting value.	*Equals* *Does not equal*

Get Machine Catalog Activity

The Get Machine Catalog activity is used in a runbook to return XenDesktop machine catalogs. The following tables list the optional properties and published data for this activity.

Get Machine Catalog Optional Properties

Name	Description	Valid Values
Max Record Count	Specifies the maximum number of records to be returned.	*Integer*
Property	Specifies which object properties are to be returned, in the form of a comma separated list of property names.	*String*
Return Total Record Count	Specifies whether the activity should return the total number of records available.	*True* *False*
Skip	Skips the specified number of records before returning the results.	*Integer*
Sort By	Sorts the results by the specified list of properties, in the form of a comma separated list of property names. Optionally, prefix each name with a + or - to indicate ascending or descending order. Ascending order is assumed if no prefix is present.	*String*

Get Machine Catalog Published Data

Name	Description	Valid Values
Machine Catalog Count	Number of Machine Catalog objects returned.	*Integer*
Total Record Count	Total number of records available. This is published when Return Total Record Count is True.	*Integer*
Allocation Type	Specifies how the machines in the catalog are allocated to a user.	*Static* *Random*
Assigned Count	The number of assigned machines (machines that have been assigned to a user/users or a client name/address).	*Integer*
Available Assigned Count	The number of available machines (not in a desktop group), that are also assigned to users.	*Integer*
Available Count	The number of available machines (those not in any desktop group).	*Integer*

Name	Description	Valid Values
Available Unassigned Count	The number of available machines (those not in any desktop group) that are not assigned to users.	*Integer*
Description	Description of the catalog	*String*
Hypervisor Connection UID	The UID of the hypervisor connection that is associated with the machines in the catalog. This only applies for MCS provisioned catalogs as with other provisioning types, the machines can be from one or more different hypervisor connections.	*Integer*
Is Remote PC	Specifies if the catalog is a Remote PC catalog or not. Remote PC catalogs automatically configure appropriate machines without the need for manual configuration.	*True* *False*
Machines Are Physical	Specifies if the machines in the catalog can be power-managed by the broker or not.	*True* *False*
Metadata Map	Holds any metadata associated with the catalog.	*String Map in JSON format*
Minimum Functional Level	The expected minimal functional level of the machines in the catalog.	*L5* *L7*
Name	The name of the catalog.	*String*
Persist User Changes	Specifies how the user changes are persisted on the machines in the catalog.	*OnLocal* *Discard* *OnPvd*
Provisioning Scheme ID	The GUID of the provisioning scheme (if any) associated with the catalog. This only applies if the provisioning type is MCS.	*GUID String*
Provisioning Type	Specifies how the machines are provisioned in the catalog.	*Manual* *PVS* *MCS*
PVS Address	IP address of the PVS server to be used in a catalog with a PVS Provisioning Type.	*String*
PVS Domain	he domain of the PVS server to be used in a catalog with a PVS Provisioning Type.	*String*
Remote PC Desktop Group	Remote PC desktop groups association priorities.	*Integer Array in JSON format*

Name	Description	Valid Values
Priorities		
Remote PD Desktop Group UIDS	UIDs of the Remote PC desktop groups associated with this catalog.	*Integer Array in JSON format*
Scopes	The list of the delegated admin scopes to which the catalog belongs.	*Scope Array in JSON format*
Session Support	Specifies the session support of the machines in the catalog.	*SingleSession* *MultiSession*
UID	UID of the catalog.	*Integer*
Unassigned Count	The number of unassigned machines (machines not assigned to users).	*Integer*
Used Count	The number of machines in the catalog that are in a desktop group.	*Integer*
UUID	The number of machines in the catalog that are in a desktop group.	*GUID String*

Get Machine Catalog Filters

Name	Description	Valid Values
Allocation Type	Filters results by Allocation Type value.	*Equals* *Does not equal*
Assigned Count	Filters results by Assigned Count value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Available Assigned Count	Filters results by Available Assigned Count value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Available Count	Filters results by Available Count value.	*Equals* *Does not equal*

Name	Description	Valid Values
		Is less than or equal to *Is greater than or equal to* *Is less than* *Is greater than*
Available Unassigned Count	Filters results by Available Unassigned Count value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Description	Filters results by Description.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Hypervisor Connection UID	Filters results by Hypervisor Connection UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Is Remote PC	Filters results by Is Remote PC value.	*Equals* *Does not equal*
Machine UID	Filters results by Machine UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Machines Are Physical	Filters results by Machines Are Physical value.	*Equals* *Does not equal*
Metadata	Filters results by Metadata value.	*Equals*

Name	Description	Valid Values
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Minimum Functional Level	Filters results by Minimum Functional Level value.	*Equals* *Does not equal*
Name	Filters results by Name.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Persist User Changes	Filters results by Persist User Changes value.	*Equals* *Does not equal*
Provisioning Scheme ID	Filters results by Provisioning Scheme ID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Provisioning Type	Filters results by Provisioning Type value.	*Equals* *Does not equal*
PVS Address	Filters results by PVS Address value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern*

Name	Description	Valid Values
		Does not match pattern
		Starts with
		Ends with
PVS Domain	Filters results by PVS Domain value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Remote PC Desktop Group Priority	Filters results by Remote PC Desktop Group Priority value.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than
Remote PD Desktop Group UID	Filters results by Remote PD Desktop Group UID value.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than
Scope ID	Filters results by Scope ID value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Scope Name	Filters results by Scope Name value.	*Equals*
		Does not equal
		Contains
		Does not contain

Name	Description	Valid Values
		Matches pattern *Does not match pattern* *Starts with* *Ends with*
Session Support	Filters results by Session Support value.	*Equals* *Does not equal*
UID	Filters results by UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Unassigned Count	Filters results by Unassigned Count value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Used Count	Filters results by Used Count value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
UUID	Filters results by UUID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*

Get Session Activity

The Get Session activity is used in a runbook to return running desktop sessions. The following tables list the optional properties and published data for this activity.

Get Session Optional Properties

Name	Description	Valid Values
Max Record Count	Specifies the maximum number of records to be returned.	*Integer*
Property	Specifies which object properties are to be returned, in the form of a comma separated list of property names.	*String*
Return Total Record Count	Specifies whether the activity should return the total number of records available.	*True* *False*
Skip	Skips the specified number of records before returning the results.	*Integer*
Sort By	Sorts the results by the specified list of properties, in the form of a comma separated list of property names. Optionally, prefix each name with a + or - to indicate ascending or descending order. Ascending order is assumed if no prefix is present.	*String*

Get Session Published Data

Name	Description	Valid Values
Session Count	Number of Session objects returned.	*Integer*
Total Record Count	Total number of records available. This is published when Return Total Record Count is True.	*Integer*
Agent Version	Version of the Citrix Virtual Delivery Agent (VDA) installed on the machine.	*String*
Applications In Use	List of applications in use in the session.	*String Array in JSON format*
Autonomously Brokered	Indicates if the session was started without the use of the broker.	*True* *False*
Brokering Duration	Time taken to broker the session.	*Integer*
Brokering Time	Time at which the session was brokered (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime String*

Name	Description	Valid Values
Brokering User Name	The user name of the brokering user.	*String*
Brokering User SID	The SID of the brokering user.	*String*
Catalog Name	The name of the catalog that the machine hosting the session is assigned to.	*String*
Client Address	The IP address of the client connected to the desktop.	*String*
Client Name	The host name of the client connected to the session.	*String*
Client Version	The version of the Citrix Receiver running on the client connected to the session.	*String*
Connected Via Host Name	The host name of the incoming connection. This is usually a gateway, router or client.	*String*
Connected Via IP	The IP address of the incoming connection This is usually a gateway, router or client.	*String*
Controller DNS Name	The DNS host name of the controller that the session's hosting machine is registered with.	*String*
Desktop Group Name	Name of the desktop group of the machine the session is on.	*String*
Desktop Group UID	UID of the desktop group of the machine the session is on.	*Integer*
Desktop Kind	Indicates if the session is shared or private.	*Private* *Shared*
Desktop SID	The Windows SID of the machine the session is on.	*String*
Desktop UID	For a desktop session, the unique identifier of the desktop.	*Integer*
Device ID	Unique identifier for the client device that has most recently been associated with the session.	*String*
DNS Name	The DNS host name of the machine hosting the session.	*String*
Establishment Duration	Duration that it took to establish the session.	*Integer*
Establishment Time	Time at which the session was established (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime String*
Hardware ID	Unique identifier for the client hardware that has been most recently associated with the session.	*String*

Name	Description	Valid Values
Hidden	Indicates if the session is currently hidden from the user and not to be reconnected to.	*True* *False*
Hosted Machine Name	The friendly name of a hosted machine running the session, as used by its hypervisor. This does not necessarily match either the DNS or AD name of the machine.	*String*
Hosting Server Name	DNS name of the hypervisor that is hosting the machine hosting the session.	*String*
Hypervisor Connection Name	The name of the hypervisor connection that the machine hosting the session has been assigned to.	*String*
Image Out Of Date	Indicates whether the VM image for a hosted machine is out of date and due to be updated to a new master image when the machine next reboots.	*True* *False*
In Maintenance Mode	Specifies whether the machine hosting the session is in maintenance mode.	*True* *False*
IP Address	The IP address of the machine hosting the session.	*String*
Is Physical	Indicates if the machine hosting the session can be power managed.	*True* *False*
Launched Via Host Name	The host name of the Store Front server used to launch the session.	*String*
Launched Via IP	The IP address of the Store Front server used to launch the session.	*String*
Machine Name	DNS host name of the machine hosting the session.	*String*
Machine Summary State	The summary state of the machine.	*Off* *Unregistered* *Available* *Disconnected* *Preparing* *InUse*
Machine UID	UID of the machine hosting the session.	*Integer*
Metadata Map	Map of metadata for this session.	*String Map in JSON format*

Name	Description	Valid Values
OS Type	String that can be used to identify the operating system that is running on the machine hosting the session.	*String*
Persist User Changes	Indicates whether/how the user changes are persisted.	*OnLocal* *Discard* *OnPvd*
Power State	The current power state of the machine hosting the session.	*Unmanaged* *Unknown* *Unavailable* *On* *Suspended* *TurningOn* *TurningOff* *Suspending* *Resuming*
Protocol	The protocol that the session is using, can be either "HDX" or "RDP".	*String*
Provisioning Type	Specifies how the machine hosting the session was provisioned.	*Manual* *PVS* *MCS*
Secure ICA Active	Indicates whether Secure ICA is active on the session.	*True* *False*
Session Id	A unique identifier that Remote Desktop Services uses to track the session but it is only unique on that machine.	*Integer*
Session Key	Uniquely identifies the session object.	*GUID String*
Session State	The state of the session.	*PreparingNewSession* *Connected* *Active* *Disconnected* *Reconnecting* *NonBrokeredSession* *Other* *Unknown*
Session State Change Time	The time of the most recent state change for the session (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime String*

Name	Description	Valid Values
Session Support	Indicates if the machine hosting the session supports multiple or single sessions.	*SingleSession* *MultipleSession*
Session Type	Indicates if this is an Application or Desktop session.	*Application* *Desktop*
Smart Access Tags	The Smart Access tags for this session.	*String Array in JSON format*
Start Time	Indicates when the session was started (yyyy-MM-ddTHH:mm:ss.fff).	*DateTime String*
UID	Unique identifier of this session.	*Integer*
User Full Name	The full name of the user.	*String*
User Name	The name of the user.	*String*
User SID	The user's Windows SID.	*String*
User UPN	The user's User Principal Name	*String*

Get Session Filters

Name	Description	Valid Values
Agent Version	Filters results by Agent Version value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Application In Use	Filters results by Application In Use value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Application	Filters results by Application UID.	*Equals*

Name	Description	Valid Values
UID		*Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Autonomously Brokered	Filters results by Autonomously Brokered value.	*Equals* *Does not equal*
Brokering Duration	Filters results by value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Brokering Time	Filters results by Brokering Duration value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Brokering User Name	Filters results by Brokering User Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Brokering User SID	Filters results by Brokering User SID value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with*

Name	Description	Valid Values
		Ends with
Catalog Name	Filters results by Catalog Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Client Address	Filters results by Client Address value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Client Name	Filters results by Client Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Client Version	Filters results by Client Version value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Connected Via Host Name	Filters results by Connected Via Host Name value.	*Equals* *Does not equal*

Name	Description	Valid Values
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Connected Via IP	Filters results by Connected Via IP value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Controller DNS Name	Filters results by Controller DNS Name value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Desktop Group Name	Filters results by Desktop Group Name value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Desktop Group UID	Filters results by Desktop Group UID value.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than

Name	Description	Valid Values
		Is greater than
Desktop Kind	Filters results by Desktop Kind value.	*Equals* *Does not equal*
Desktop SID	Filters results by Desktop SID.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Desktop UID	Filters results by Desktop UID.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Device ID	Filters results by Device ID.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
DNS Name	Filters results by DNS Name.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Establishment Duration	Filters results by Establishment Duration value.	*Equals* *Does not equal*

Name	Description	Valid Values
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than
Establishment Time	Filters results by Establishment Time value.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than
Hardware ID	Filters results by Hardware ID.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Hidden	Filters results by Hidden value.	*Equals*
		Does not equal
Hosted Machine Name	Filters results by Hosted Machine Name.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Hosting Server Name	Filters results by Hosting Server Name.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with

Name	Description	Valid Values
		Ends with
Hypervisor Connection Name	Filters results by Hypervisor Connection Name.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Image Out Of Date	Filters results by Image Out Of Date value.	*Equals* *Does not equal*
In Maintenance Mode	Filters results by In Maintenance Mode value.	*Equals* *Does not equal*
IP Address	Filters results by IP Address value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Is Physical	Filters results by Is Physical value.	*Equals* *Does not equal*
Launched Via Host Name	Filters results by Launched Via Host Name value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Launched Via IP	Filters results by Launched Via IP value.	*Equals* *Does not equal* *Contains*

Name	Description	Valid Values
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Machine Name	Filters results by Machine Name.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
Machine Summary State	Filters results by Machine Summary State value.	*Equals*
		Does not equal
Machine UID	Filters results by Machine UID.	*Equals*
		Does not equal
		Is less than or equal to
		Is greater than or equal to
		Is less than
		Is greater than
Metadata	Filters results by Metadata value.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern
		Does not match pattern
		Starts with
		Ends with
OS Type	Filters results by OS Type.	*Equals*
		Does not equal
		Contains
		Does not contain
		Matches pattern

Name	Description	Valid Values
		Does not match pattern *Starts with* *Ends with*
Persist User Changes	Filters results by Persist User Changes value.	*Equals* *Does not equal*
Power State	Filters results by Power State value.	*Equals* *Does not equal*
Protocol	Filters results by Protocol value.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Provisioning Type	Filters results by Provisioning Type value.	*Equals* *Does not equal*
Secure ICA Active	Filters results by Secure ICA Active value.	*Equals* *Does not equal*
Session Id	Filters results by Session Id.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Session Key	Filters results by Session Key.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
Session State	Filters results by Session State value.	*Equals*

Name	Description	Valid Values
		Does not equal
Session State Change Time	Filters results by Session State Change Time value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Session Support	Filters results by Session Support value.	*Equals* *Does not equal*
Session Type	Filters results by Session Type value.	*Equals* *Does not equal*
Shared Desktop UID	Filters results by Shared Desktop UID value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
Start Time	Filters results by Start Time value.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
UID	Filters results by UID.	*Equals* *Does not equal* *Is less than or equal to* *Is greater than or equal to* *Is less than* *Is greater than*
User Full Name	Filters results by User Full Name.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern*

Name	Description	Valid Values
		Starts with *Ends with*
User Name	Filters results by User Name.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
User SID	Filters results by User SID.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*
User UPN	Filters results by User UPN.	*Equals* *Does not equal* *Contains* *Does not contain* *Matches pattern* *Does not match pattern* *Starts with* *Ends with*

Remove Machine Activity

The Remove Machine activity is used in a runbook to remove a machine from a Machine Catalog or a Desktop (Delivery) Group. If a machine is part of a Desktop (Delivery) Group, it has to be removed from that group first, before it can be removed from the Machine Catalog. Note that when removing a machine from a Machine Catalog, the underlying VM is not deleted from the hypervisor. The following tables list the required properties for this activity. This activity does not have any XenDesktop specific published data.

Remove Machine Required Properties

Name	Description	Valid Values
Machine Name	Name of the machine to be removed, in the form *domain\machine.*	*String*
Remove Machine From	Specifies whether the machine is to be removed from a Machine Catalog or from a Delivery Group.	*Machine Catalog* *Delivery Group*
Delivery Group UID	Uniquely identifies the Delivery Group the machine is to be removed from. Available only when removing a machine from a delivery group.	*Integer*

Remove Machine Published Data

Name	Description	Valid Values
Machine UID	The UID of the machine that has been removed from the Delivery Group. Machine UID value is not published after removing a machine from a catalog since the machine UID is no longer valid.	*Integer*
Machine Name	The name of the machine that has been removed from the Machine Catalog or Delivery Group	*String*

Remove User Activity

The Remove User activity is used in a runbook to remove a user from a Private (Static) Desktop or Shared (Random) Delivery Group or a Machine.   The following tables list the required properties for this activity. This activity does not have any XenDesktop specific published data.

Remove User Required Properties

Name	Description	Valid Values
User Name	Name of the user to be removed, in the form *domain\user.*	*String*
Remove User From	Specifies whether the user is to be removed from a Private Desktop or from a Shared Group or from a Machine.	*Private (Static) Desktop* *Shared (Random) Group* *Machine*
Private (Static) Desktop Name	Name of the private desktop the user is to be removed from, in the form *DOMAIN\machine*. Available only when removing a user from a private desktop.	*String*
Shared (Random) Group UID	Uniquely identifies the shared delivery group the user is to be removed from. Available only when removing a user from a shared delivery group.	*Integer*
Machine Name	Name of the machine the user is to be removed from, in the form *domain\machine*. Available only when removing a user from a machine.	*String*

Remove User Published Data

Name	Description	Valid Values
User Name	Name of the user that has been removed.	*String*
Machine Name	Name of the machine the user has been removed from.	*String*
Machine UID	UID of the machine the user has been removed from.	*Integer*
Private (Static) Desktop Name	Name of the private desktop the user has been removed from.	*String*
Private (Static) Desktop UID	UID of the private desktop the user has been removed from.	*Integer*
Shared (Random) Group Name	Name of the shared group the user has been removed from.	*String*

Name	Description	Valid Values
Shared (Random) Group UID	UID of the shared group the user has been removed from.	*Integer*

Restart Machine Activity

The Restart Machine activity is used in a runbook to restart a running machine.   The activity initiates a machine restart action with the underlying hypervisor and may complete before the machine is actually restarted. The following tables list the required properties for this activity. This activity does not have any XenDesktop specific published data.

Restart Machine Required Properties

Name	Description	Valid Values
Machine Name	Name of the machine to be restarted, in the form *domain\machine.*	*String*
Force	Indicates whether to forcefully restart the machine or not.	*True* *False*

Restart Machine Published Data

Name	Description	Valid Values
Machine UID	The UID of the machine that has been restarted.	*Integer*
Machine Name	The name of the machine that has been restarted.	*String*

Run PowerShell Script Activity

The Run PowerShell Script activity is used in a runbook to run XenDesktop specific PowerShell commands. Use this activity to run commands which are not implemented by specific activities in the integration pack.   The following tables list the required properties and published data for this activity.

Run PowerShell Script Required Properties

Name	Description	Valid Values
Script Text	XenDesktop specific PowerShell script to be executed.	*String*

Run PowerShell Script Published Data

Name	Description	Valid Values
Result Object	Object properties returned from running the script, if the script returned any objects (for example, from Get commands). Object properties are listed as name/value	*String*

Name	Description	Valid Values
	pairs according to JSON format. For details about JSON syntax please refer to www.json.org.	
Result Object Count	Number of objects returned from running the script, if any (for example, from Get commands).	*String*
Result Text	Text representation of the script output. This field is useful in cases when the script prints information to the output stream.	*String*
Warnings	Warnings returned from running the script, if any.	*String*

Set Maintenance Mode Activity

The Set Maintenance Mode activity is used in a runbook to enable or disable maintenance mode for a XenDesktop machine.   The following tables list the required properties for this activity. This activity does not have any XenDesktop specific published data.

Set Maintenance Mode Required Properties

Name	Description	Valid Values
Machine UID	Uniquely identifies the machine for which maintenance mode is to be enabled or disabled. Takes precedence over Machine Name.	*Integer*
Machine Name	Uniquely identifies the machine for which maintenance mode is to be enabled or disabled, in the form *domain\machine.*	*String*
Maintenance Mode Enabled	Indicates whether maintenance mode is to be enabled or disabled.	*True* *False*

Set Maintenance Mode Published Data

Name	Description	Valid Values
Machine UID	The UID of the machine that has been placed in maintenance mode.	*Integer*
Machine Name	The name of the machine that has been placed in maintenance mode.	*String*

Shut Down Machine Activity

The Shut Down Machine activity is used in a runbook to shut down a running machine. The activity initiates a machine shut-down action with the underlying hypervisor and may complete before the machine is actually shut down.   The following tables list the required properties for this activity. This activity does not have any XenDesktop specific published data.

Shut Down Machine Required Properties

Name	Description	Valid Values
Machine UID	Uniquely identifies the machine to be shut down. Takes precedence over Machine Name.	*Integer*
Machine Name	Name of the machine to be shut down, in the form *domain\machine.*	*String*
Force	Indicates whether to forcefully shut down the machine or not.	*True* *False*

Shut Down Machine Published Data

Name	Description	Valid Values
Machine UID	The UID of the machine that has been shut down.	*Integer*
Machine Name	The name of the machine that has been shut down.	*String*

Start Machine Activity

The Start Machine activity is used in a runbook to start a machine. The activity initiates a machine start action with the underlying hypervisor and may complete before the machine is actually started. You can use the Get Machine activity to verify the current machine Power State. The following tables list the required properties for this activity. This activity does not have any XenDesktop specific published data.

Start Machine Required Properties

Name	Description	Valid Values
Machine UID	Uniquely identifies the machine to be started. Takes precedence over Machine Name.	*Integer*
Machine Name	Name of the machine to be started, in the form *domain\machine.*	*String*

Start Machine Published Data

Name	Description	Valid Values
Machine UID	The UID of the machine that has been started.	*Integer*
Machine Name	The name of the machine that has been started.	*String*

Stop Session Activity

The Stop Session activity is used in a runbook to stop (logoff) a running XenDesktop session. The activity executes a non-blocking operation and it may finish before the operation completes. You can use the Get Session activity to verify the state of the session. The following tables list the required properties for this activity. This activity does not have any XenDesktop specific published data.

Start Machine Required Properties

Name	Description	Valid Values
Session UID	Uniquely identifies the session to be stopped	*Integer*